Mic-Fi
Digital Wi-Fi Microscopes

www.mic-fi.com

Wi-Fi DIGITAL MICROSCOPE

USER MANUAL

CE

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Welcome

Thank you for choosing Mic-Fi Wi-Fi digital microscope!
The Wi-Fi digital microscope is an exciting new device that let's you view clear many micro- objects with it, and has a wide scope of applications, such as,

- Industrial Inspection
- Computer Parts inspection
- Telecom module inspection
- Scientific teaching tool
- Medical and Beauty analysis
- School Research tool
- Insect dissection / examination
- Plant dissection / examination
- Skin examination
- Textile Inspection
- Collections / Coin/ Jewelry Inspection
- Printing Inspection
- And more……..

Please read this manual carefully before using Mic-Fi Wi-Fi digital microscope!!!

1. Safety Cautions

Need to read Mic-Fi Wi-Fi digital microscope User's Manual before using and storing it
ITALECO S.R.L. will not be held responsible in case of damages or injuries due to an illegal or improper use of the product resulting from failure to follow instructions, warnings, notices or indications for use published in this book.

- Avoid touching the lens.
- Keep out of reach of children
- Do not direct the beam of light toward the eyes (not for Iridoscope)
- Protect the product from electrostatic damage.
- Do not attempt to disassembly any part of this product.
- Do not attempt to service this product yourself. Opening the covers may expose you to dangerous voltage points or other risks.
- Store and operate Wi-Fi Microscope at Temp: -20 ~ 45°C, Humidity: 45% ~ 85%, storing and operating outside these limits may reduce the life of the product.
- Do not expose this product to water or other liquids. If water or other liquids enter the product, immediately power off the product. Continued use of the product may result in fire or an electrical shock.
- Do not use any detergent or volatile solution, as this will damage the camera case, painted surfaces and lens. To clean the product uses only a soft cleaning cloth.
- Do not place this product near a heat source or expose direct flame, avoid the lens damaged by high temperature or humidity
- If the lens is dirty, please use a kens brush on soft cloth to wipe clean. Avoid touching it with your fingers. Exercise care to avoid scratching the lens.
- To avoid electric shock, remove all electricity source before removing PC.

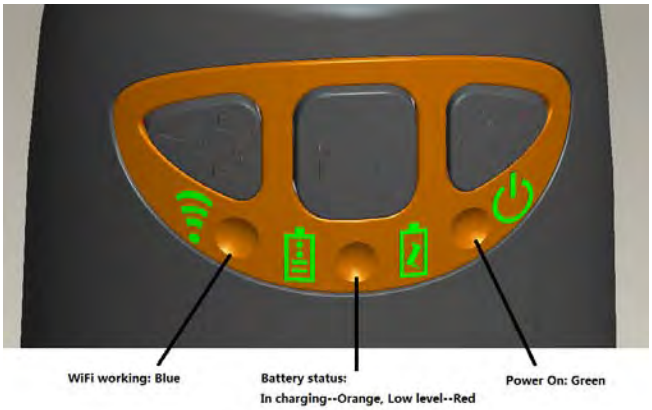
2. Package Contents

Mic-Fi Wi-Fi digital Microscope

1. Wi-Fi Microscope
2. USB AC adapter
3. USB cable
4. Plastic Stand
5. Calibration Ruler
6. Focus Caps (according to the models)

3. Use of the microscope

WARNING : LACK OF IMAGE OR SLOW VIDEO ARE THE RESULT OF A LOW BATTERY. BEFORE THE FIRST USE OF THE MICROSCOPE, PLEASE MAKE A CHARGE OF AT LEAST 12 HOURS.

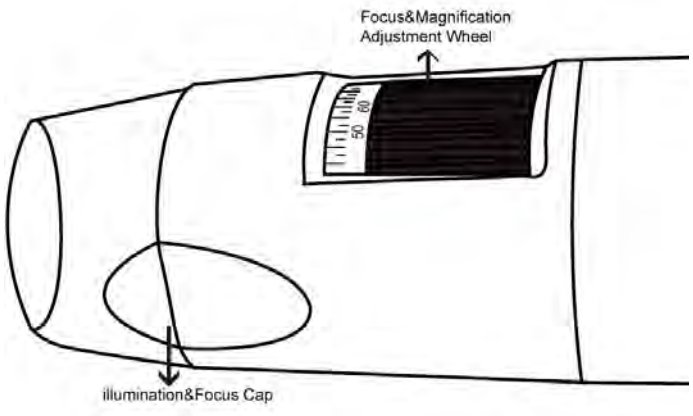


- **Wi-Fi:** Press for 2 seconds; the microscope will generate a Wi-Fi network
- **Wi-Fi Indicator** (**Blue LED**): Flashing light indicates data transmission; Constant light indicates no data transmission.
- **Power Indicator** (**Green LED**): Lights when power on Wi-Fi or connected to PC or AC adaptor via MiniUSB cable.
- **Led** : Press for 2 seconds to switch from white led to UV led (only for MICFIUVW model); press + and – to increase or decrease the intensity of light
- **Photo:** Press to capture the picture directly from microscope
- .

3.1 Charging Instructions

1. Connect the DC Adapter (plug the AC adapter into an AC outlet) or PC's USB cable, it charges whether the power switch is on Wi-Fi or OFF/USB. We DO NOT recommend charging Wi-Fi Microscope while using

2. **Battery led** (**Orange LED** or **Red LED**): **Red LED** when the battery level is low; **Orange LED** when the battery is charging
3. **The charge led**: When the battery is at full charge, the battery LED comes OFF



4. Working at Wi-Fi Mode

Before start Mic-Fi app, please make sure the Wi-Fi microscope has already connect to your display device by Wi-Fi.

1. Install:
   a) For **iPad** and **iPhone**: Search "**Mic-Fi**" in **App Store** to download and install it.
   b) For **Smart-Phone** and **Tablet Android**: Search "**Mic-Fi**" in **Google Play** to download and install it.
   c) For **Windows** and **Mac PC**: Download the Mic-Fi Software by www.mic-fi.com
2. Press for 2 seconds , wait for ~20 seconds until the Wi-Fi indicator and the illumination LEDs light, then the Wi-Fi signal will be transmitting correctly.
3. Check the wireless connection on your Phone/Tablet or PC and a list of available networks will appear. Select the SSID "Wi-Fi2SCOPE_xxxxxx" network from the list to connect; the network "Wi-Fi2SCOPE_xxxxxx" requires a password: enter the password "**12345678**" and click Ok.
4. Once connected, please wait for about 5 seconds to open the "Mic-Fi" application to see your images. If there is no video display, please close and restart "Mic-Fi" app again. The Wi-Fi indicator LED flashes and video stream signal should be displayed in the app. Video streaming can be broadcasted to many devices, but the frame rate of live video will decrease as the number of receiving devices increase.

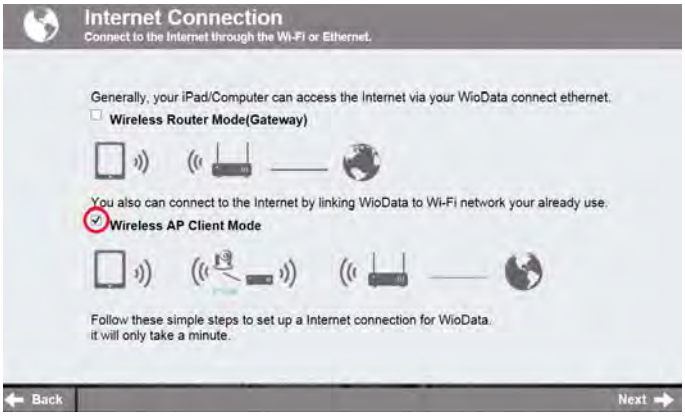
4.1 Setting for Internet and Microscope's Wi-Fi Connection at the same time

You can use the Wi-Fi network of the microscope and that of the PC / SmartPhone / Tablet at the same time

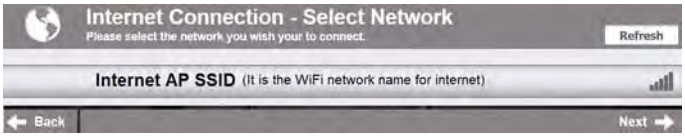
1. To access the internet by Wi-Fi connection at the same time the Wi-Fi microscope is working, open an internet browser, input http://10.10.1.1 and click "enter". A pop-up window will require you to enter a username and password, please enter: **admin** and **admin**, and then this window should appear:

2. Click

in the window to pop-up the screen:


Internet Connection
Connect to the Internet through the Wi-Fi or Ethernet.
Generally, your iPad/Computer can access the Internet via your WioData connect ethernet.
Wireless Router Mode(Gateway)
You also can connect to the Internet by linking WioData to Wi-Fi network your already use.
Wireless AP Client Mode
Follow these simple steps to set up a Internet connection for WioData.
it will only take a minute.
Back
Next

3. Select "Wireless AP Client Mode", click Next to pop-up the screen:


Internet Connection - Select Network
Please select the network you wish your to connect.
Refresh
Internet AP SSID (It is the WiFi network name for internet)
Back
Next

4. Click Refresh till your desired network SSID appears, and click it to pop-up the screen:

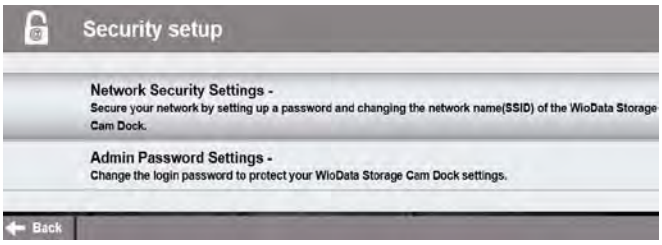
4.2 Wi-Fi Security Setup

To change the Wi-Fi access password:

1. Open an internet browser, input http://10.10.1.1 and click “enter”. A pop-up window will require you to enter a username and password, please enter: **admin** and **admin**, and then this window should appear:

2. Click

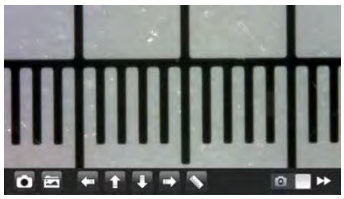
in the window to pop-up the screen:


Security setup
Network Security Settings -
Secure your network by setting up a password and changing the network name(SSID) of the WioData Storage Cam Dock.
Admin Password Settings -
Change the login password to protect your WioData Storage Cam Dock settings.
Back

3. Click “Network Security Settings” to pop-up the screen on the right.
4. Enter your desired Network Name (SSID) and password in “WPA-PSK Key” and “Re-Enter”, and click “Next”. The setting is done, now you can re-connect the new SSID Wi-Fi by entering the new password.

5. ”Mic-Fi” on iPad/iPhone

5.1 Installation on iPhone / iPad



Search “Mic-Fi” in App Store to download and install it.

Click the icon to display video.

Warm-up Tips: If the live video is black or slow, please restart “Mic-Fi” app again.

Capture photo or record video (The pixel resolution has to be set at 640x480 when recording video).

Navigation icon - moving a dot left/up/down/right for calibration or measurement operation.

Photos folder or videos folder.

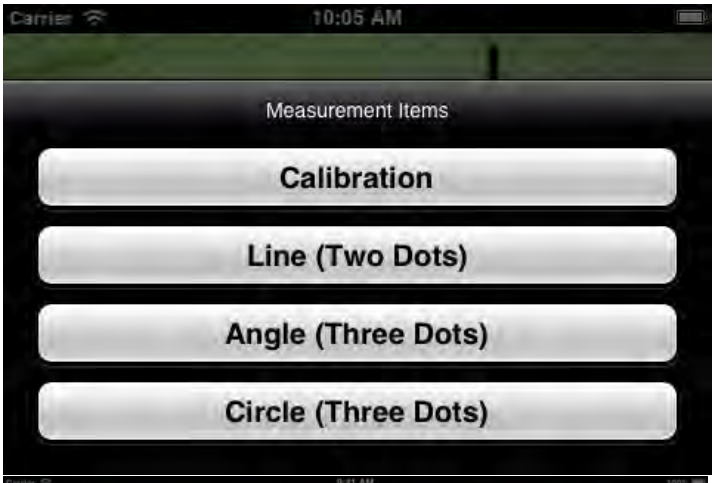
Calibration and measurement.

Switch between photo taking and video recording.

Resolution Setting. (When changing the resolution, please wait until the illumination LED is off and lights up again – it takes about 5 seconds).

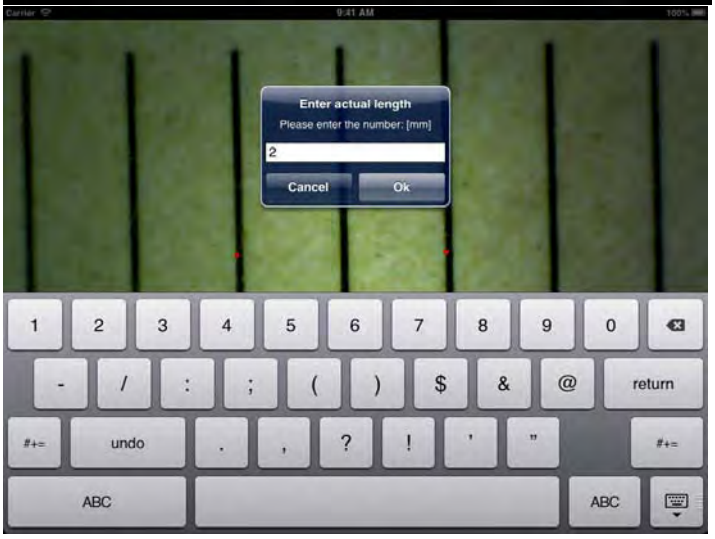
5.2 Calibration on iPhone / iPad

To obtain the accurate measurement data for each magnification, please calibrate before any measurement function.



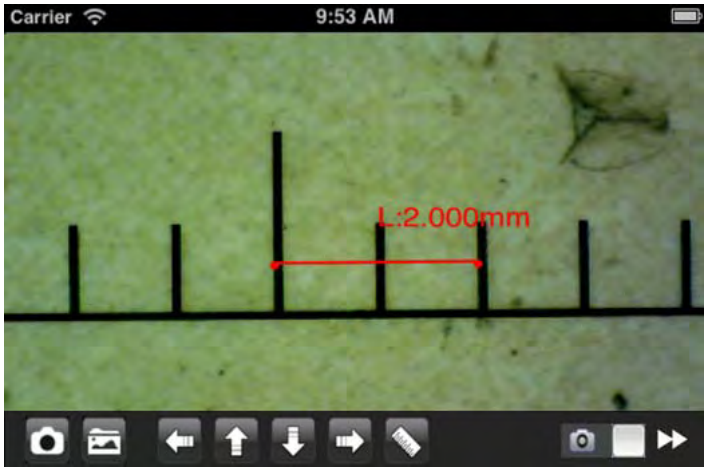
Use the enclosed calibration ruler as to-be-observed object. Bring the image into focus by turning the “Focus & Magnificationadjustment wheel”;

Click to pop-up the screen on the left.
Click “Calibration” to back the live video, click two dots (moving the dot by clicking)which draw a your desired line, then click on the live video to show the following screen:



1. Click to select a point and refine the selection by clicking the arrows

2. select in the same way a second point at a known distance; in this way a line of known length will be shown
3. press any point on the screen
4. Enter the value of lenght and press "OK"



Now the calibration is completed. Click on screen again, you can make measurement features accurately on the live video at this same focus. (Don’t adjust again the “Focus & Magnification wheel”). If the new photo object is not in focus, please only adjust the distance between the microscope and the object until the photo is clear. The measurement data can be saved inside the taken photo.

5.3 Measurement on iPhone / iPad

Line Allows you to measure the linear distance between two points.
Simply click and drag to the desired length, and click again to finish.

Angle Allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.

Circle Allows the measurement of the circumference, area, and radius of a circle. Simply click on any three points on the circle you wish to measure.

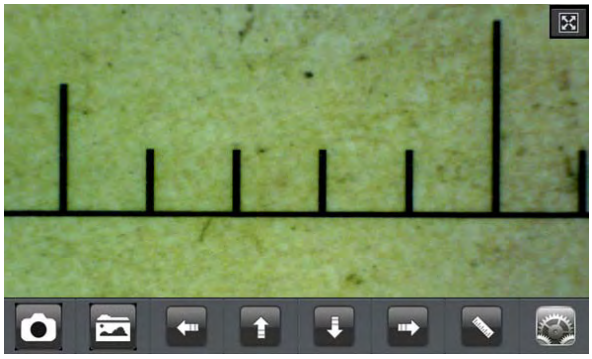
e.g.: click the ruler icon and select “line”.
Select on the image the two points whose distance is to be measured and press again on the screen. The measure will appear.

Click to save the image (Please, don’t adjust again the “Focus & Magnification wheel”). If the new photo object is not in focus, please only adjust the distance between the microscope and the object until the photo is clear. The measurement data can be saved inside the taken photo.

To obtain the accurate measurement data for each magnification, please calibrate before any measurement function.

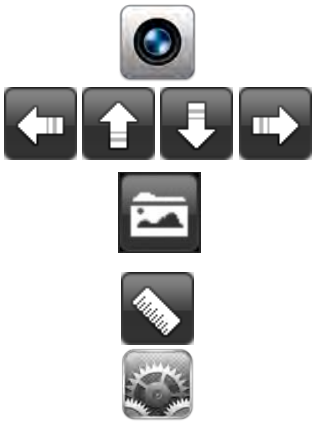
6. “Mic-Fi” on Android Tablet /Phone

6.1 Installation on Android Tablet / SmartPhone



Install the “Mic-Fi” app and run it by click the icon

If the live video is black or slow, please restart “Mic-Fi” app again.



Capture photo.

Navigation icon—moving a dot left/up/down/right for calibration or measurement operation.

Photos folder.

Calibration and measurement.

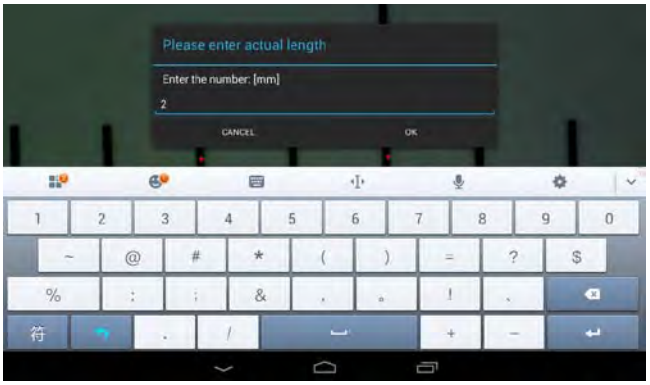
Resolution Setting. (When changing the resolution, please wait until the illumination LED is off and lights up again – it takes about 5 seconds).

6.2 Calibration on Android Table / Phone

To obtain the accurate measurement data for each magnification, please calibrate before any measurement function.

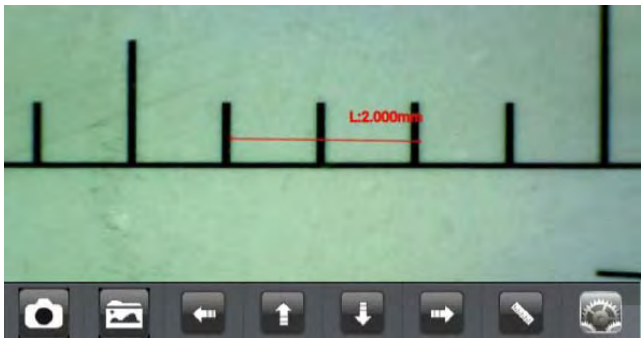
Use the enclosed calibration ruler as to-be-observed object. Bring photo into focus by turning the “Focus & Magnification wheel”; Click on to show the screen on the left.

Click “Calibration” to come back to the live video.



1. Click to select a point and refine the selection by clicking the arrows

2. select in the same way a second point at a known distance; in this way will be shown with a line of known length
3. press any point on the screen
4. Enter the value of lenght and press "ok"



Now the calibration is completed. Click on screen again, you can make measurement features accurately on the live video at this same focus. (Please, don’t adjust again the “Focus & Magnification wheel”). If the new photo object is not in focus, please only adjust the distance between the microscope and the object until the photo is clear. The measurement data can be saved inside the taken photo.

6.3 Measurement on Android Table / Phone

Line Allows you to measure the linear distance between two points.
Simply click and drag to the desired length, and click again to finish.

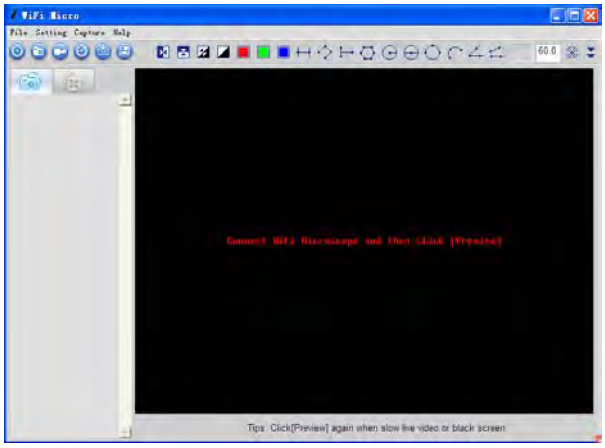
Angle Allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.

Circle Allows the measurement of the circumference, area, and radius of a circle. Simply click on any three points on the circle you wish to measure.

e.g.: click the ruler icon and select “Circle”.
Select on the image three points on the circle to be measured, and press again on the screen. The measure will appear.

Click to save the image (Please, don’t adjust again the “Focus & Magnification wheel”). If the new photo object is not in focus, please only adjust the distance between the microscope and the object until the photo is clear. The measurement data can be saved inside the taken photo.

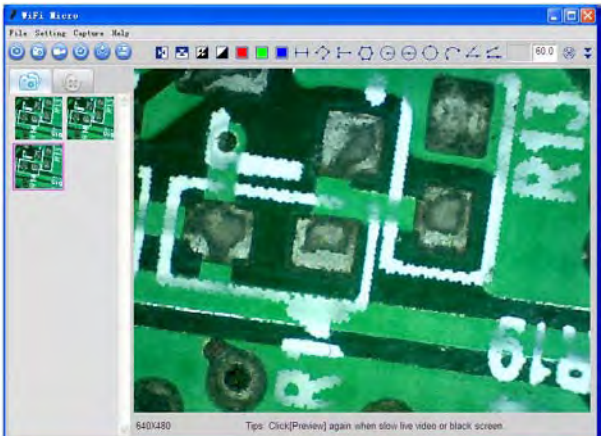
7. “WiFiMic-Fi” on Windows Computer



1. After the installation of “WiFiMic-Fi” the icon will appear. Click on the icon to run it. The download is available from www.mic-fi.com

Click “Preview” icon and the Mic-Fi main screen will display video as below: (it waits about 5 seconds to display video; if the live video is black or slow, please click “Preview” icon once again to try).

7.1 Menu



Preview, live image

Take a picture

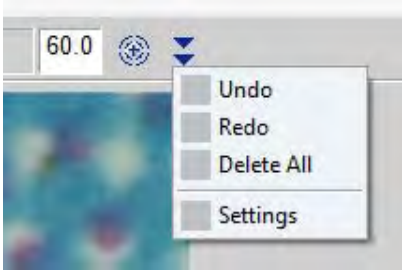
Take/Stop Video

Take time-lapsed pictures

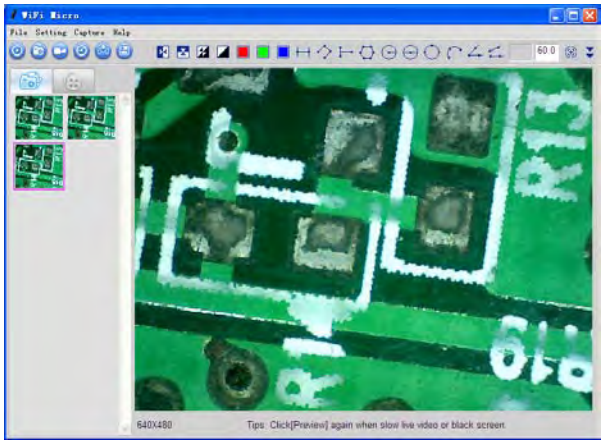
Email the selected photos

Save the selected photo or video file

Or



7.1.1 File Menu

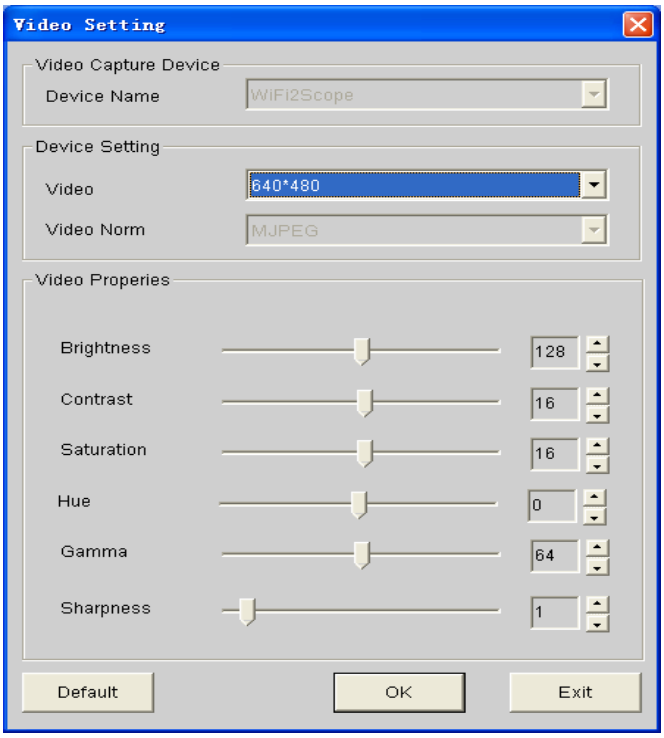


Select a photo or video and click “File” on the menu bar.

- **Open:** Open the selected photo or video to be displayed.
- **Save as** : Save the selected photo or video file as the desired folder and file format.
- **Delete:** Delete the selected photo or video.
- **Delete all:** Delete the all photos or videos in the photo or video folder.
- **E-Mail** : Email the selected photos using your default email account.
- **Favorites**: Open the folder containing the captured photos and recorded videos.

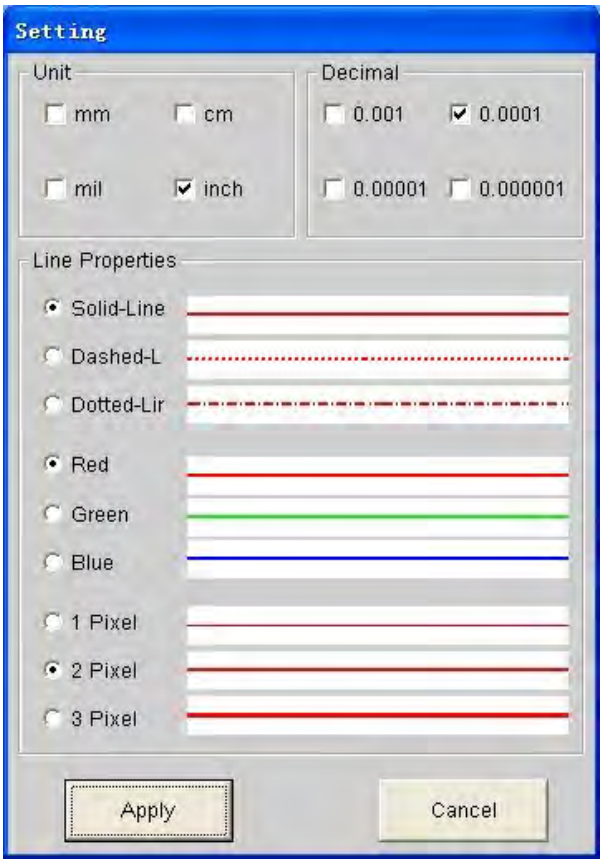
7.1.2 Setting Menu

Video Setting



When you change the resolution, please wait until the illumination LED is off and lights up again before clicking OK - it takes about 5seconds.

Setting



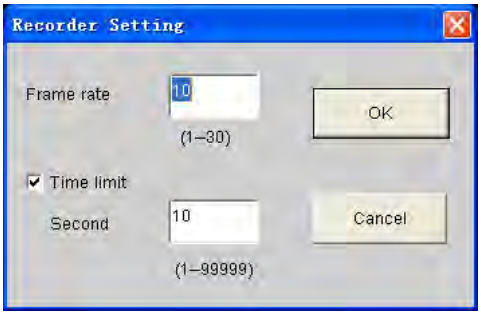
Change language: The language selection allows you to select the WiFiMic-Fi interface language.

7.1.3 Capture Menu

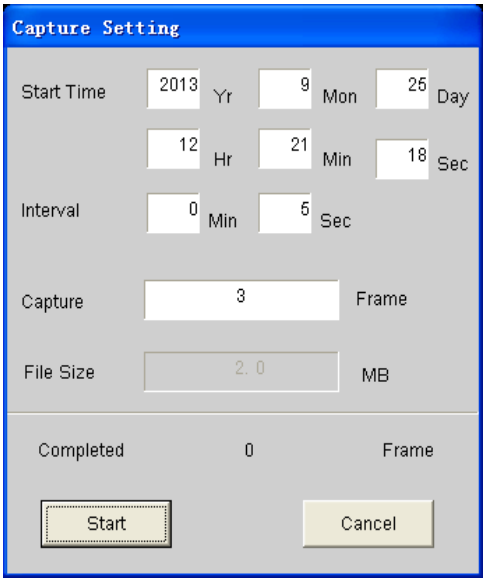
Take Picture: Capture a photo

Take/Stop Video: In the active live video window, click to start/stop recording

Recorder Setting



Capture Setting



- **Frame rate**: is the number of frames per second that are displayed. The number range is 1~30
- **Timer limit**: is the time of video recording to avoid video file size exceeding the disk space. The number range is 1~99999
- **Take time-elapsed pictures**: Press the time-lapsed button on the active preview window

7.1.4 Help

About: Software version

7.1.5 Video Processing

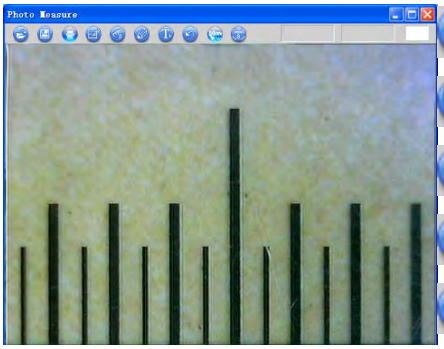
Please click "Preview " to resume the live video after finished operation of video processing below.

Horizontal Mirror
Vertical Mirror
Negative
Binary Segmentation
Monochrome display (Red)
Monochrome display (Green)
Monochrome display (Blue)
Calibration on Video

To obtain the accurate measurement data for each magnification, please calibrate before any measurement function.

7.2 Images on Windows

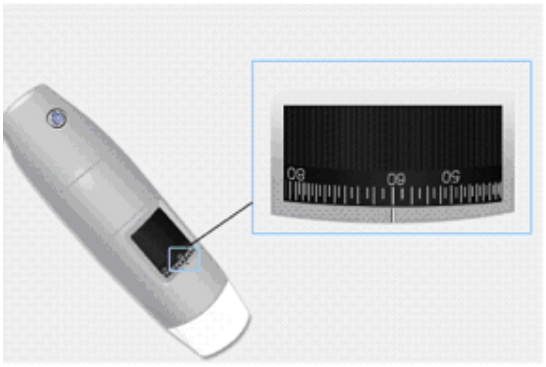
You can double-click the selected Photo to measure and view it as below shown.
Photo file name: yyyymmddhhmmss_nnnx_Nxxxx is a combination of date, time, magnification and serial number. For example, Still_2009-03-06_102949_060X_N0002 figures: Number is 0002, magnification is 60, date is Mar-06-2009, time is AM10:29:49.



Open a photo for measure from a folder
Save as
Print this photo
Select a target
Measure function items
Pen setting
Add text into photo
Delete the selected target
Move the selected target
Calibration

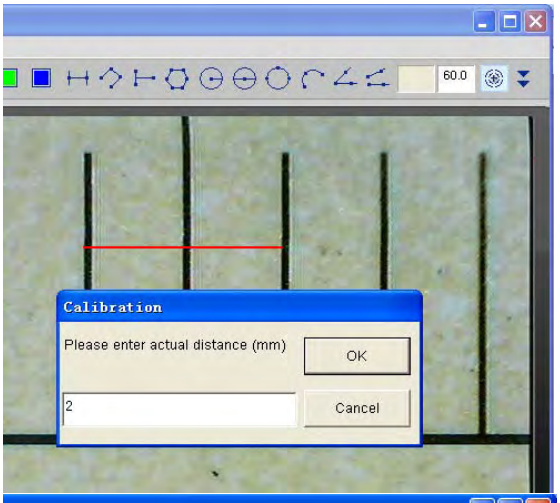
7.3 Calibration on Windows Systems

To obtain the accurate measurement data for each magnification, please calibrate before any measurement function.

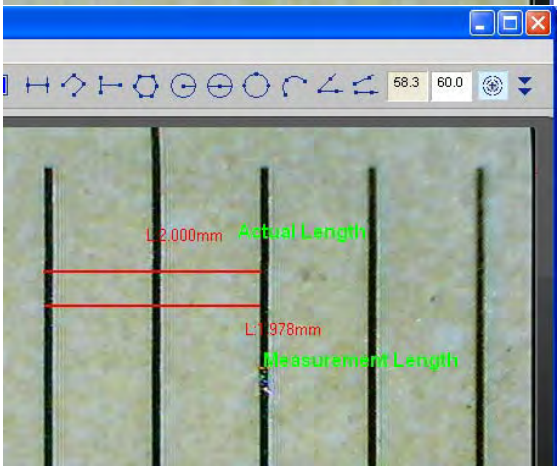


1. To calibrate, select a known measurement standard, such as a ruler, as to-be-observed object.
2. Bring the image of the selected ruler into focus by turning the "Focus & Magnification wheel"
3. Determine the magnification by taking a reading from the scale on the focus dial as below (The default magnification is 60x)

4. Enter the scale value in the "Scale" box in the right-hand scale box of the screen



5. In the live video window click on the calibration button , then click and drag to 2mm length, a small window pop up
6. Enter the actual length (the example is 2mm) and click "OK" button.



The software will automatically calibrate the scale of magnification and will show the calibrated scale of magnification at the right-hand box of calibration button

Now the calibration is completed, you can make measurement features accurately on taken photos or real-time video at this focus point (Please, don't adjust again the "Focus & Magnification wheel").

If the new photo object is not in focus, please only adjust the distance between the microscope and the object until the photo is clear, and then capture the photo to measure it.

7.4 Measurement on Windows Systems

Line measurement	Allows you to measure the linear distance between two points. Simply click and drag to the desired length, and click again to finish.
Point to Line Measurement	Allows measurement of a line 90 degree from a certain line. Simply create a line to represent the base by clicking once to start, drag, and then click again to set the endpoint. Branch off from the base line to start measuring the line that is 90 degree from the base line and a final click to finish the measurement.
Continuous Line Measurement	Allows measurement of the distance between multiple connecting lines. Simply click and drag to form one section of distance, click again to start another section. Continue until the total desired distance is measured. Double-click to finish.
Polygon Measurement	Allows measurement of a polygon. Simply click and drag to form the desired length, and click again to start the next section, double-click to finish the polygon measurement.
Radius of Circle Measurement	Allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired radius.
Diameter of Circle Measurement	Allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired diameter.
Three Point Circle Measurement	Allows the measurement of the circumference, area, and radius of a circle. Simply click on any three points on the circle you wish to measure.
Three Point Arc Measurement	Allows a measurement of an arc. Click on three consecutive points on an arc to measure.
Three Point Angle Measurement	Allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.
Four Points Angle Measurement	Allows the measurement of an angle by selecting four points. Simply select two points from one line segment and another two points from another line segment to complete the angle measurement.

To measure, please enter the magnification if there is not number.
The number is the scale value on the roller when capturing the photo.

8. “Mic-Fi” on Mac Computer

8.1 Installation on Mac Computer

Installing the “Mic-Fi” in the OS X 10.8 or later version, the system will pop-up the message as below window

[redacted] can't be opened because it is from an unidentified developer.
Your security preferences allow installation of only apps from the Mac App Store and identified developers.
OK

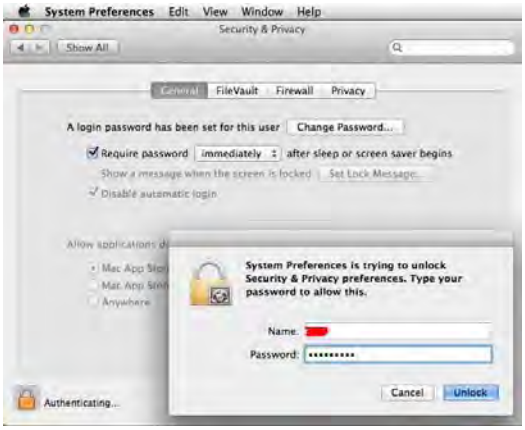
You need to set your computer as below:

Click Apple icon to pop-up the window on the right, click “System Preference” to show the following window.

Click “Security&Privacy” to show the following window.

Click “Click the lock to make changes” to pop-up the following window.

Input “Name” and “password” of your system, and click “Unlock” to show the following window:


System Preferences Edit View Window Help
Security & Privacy
Show All
General FileVault Firewall Privacy
A login password has been set for this user
Change Password...
Require password immediately after sleep or screen saver begins
Disable automatic login
System Preferences is trying to unlock Security & Privacy preferences. Type your password to allow this.
Name:
Password:
Cancel
Unlock
Authenticating...

Select “Anywhere” to finish the setting.

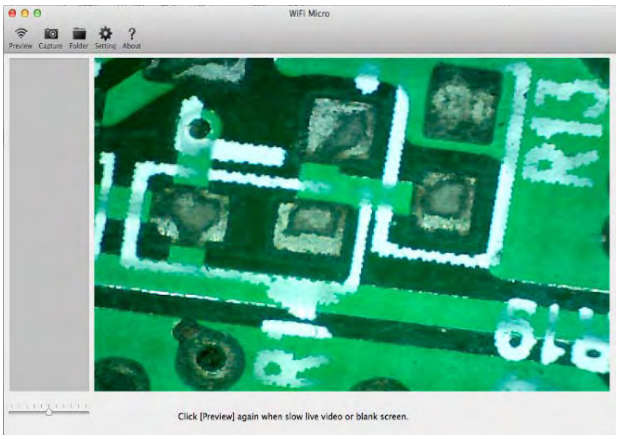
Now you can install “Mic-Fi” Software.

System Preferences Edit View Window Help
Security & Privacy
Show All
General FileVault Firewall Privacy
A login password has been set for this user
Change Password...
Require password immediately after sleep or screen saver begins
Show a message when the screen is locked
Set Lock Message...
Disable automatic login
Allow applications downloaded from:
Mac App Store
Mac App Store and identified developers
Anywhere
Click the lock to prevent further changes.
Advanced...

Double-click “WiFi Mic-fi” icon after completing installation.

Click “Preview” and then the WiFiMic-Fi main screen will display video (it waits about 5 seconds to display the live video; if the video is blank or slow, please click “Preview” icon once again.).

8.2 Images on MAC



Preview (Connect the Wi-Fi microscope and display video)

Capture photo

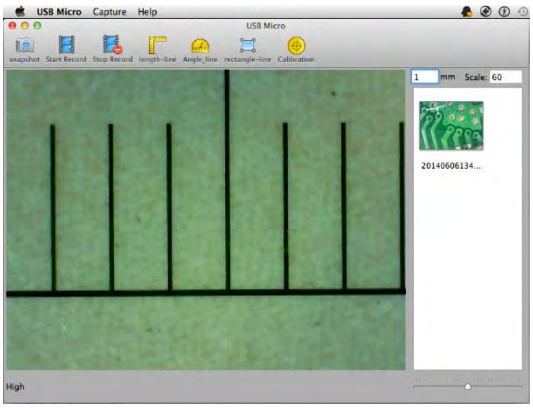
Photo folder: Open the folder which contains the captured photos

Setting (Show / Hide)

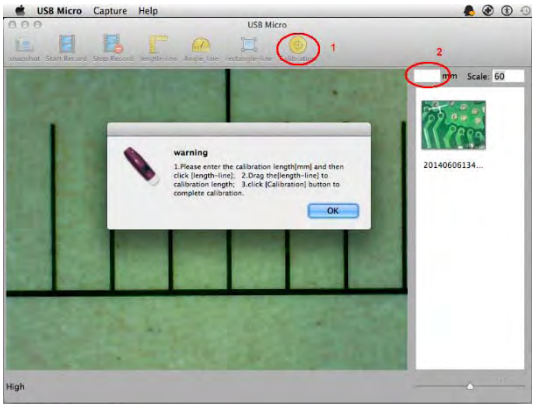
“About”

8.3 Calibration on Mac Computer

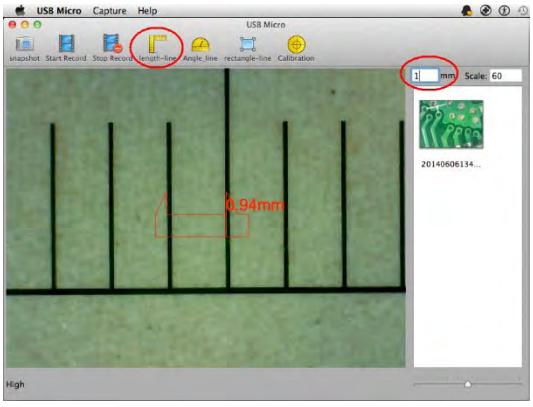
To obtain the accurate measurement data for each magnification, please calibrate before any measurement function.



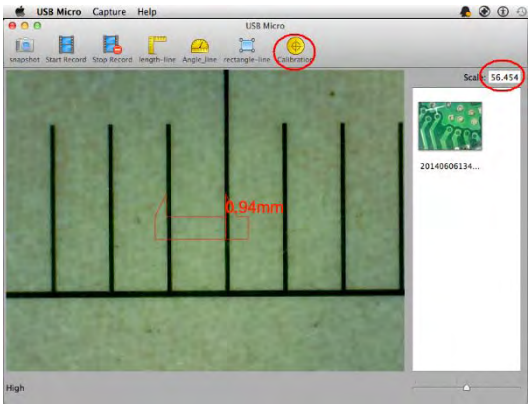
1. To calibrate, select a known measurement standard, such as a ruler, as to-be-observed object.
2. Bring the image of the selected ruler into focus by turning the "Focus & Magnification wheel"
3. Determine the magnification by taking a reading from the scale on the focus dial as below (The default magnification is 60x)



4. Clicking the icon, a warning message pop-up and a blank box will appear in the right-upper of the main window.
5. Please click "OK" and enter the actual length (1mm as the example)



6. Click the icon. Move and adjust the line to 1mm on the video preview window.

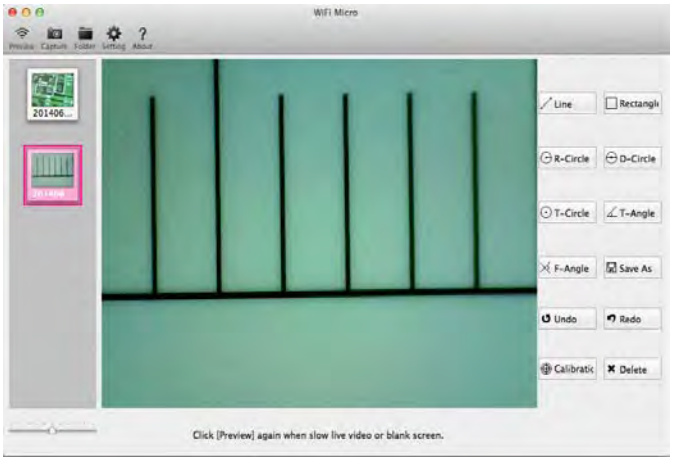


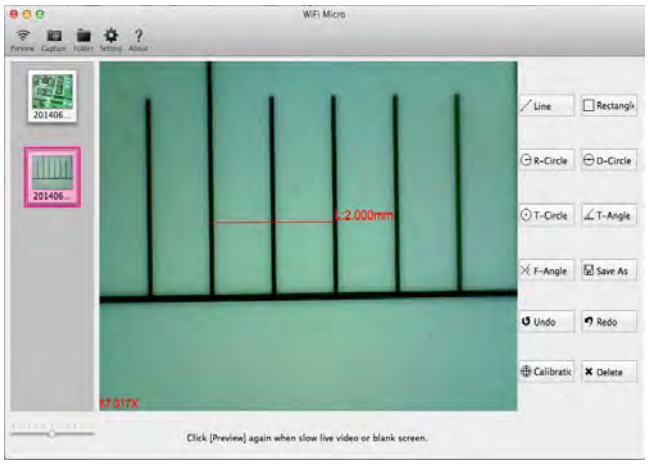
7. Click the icon to complete calibration function. The software will automatically calibrate the scale of magnification and will show the calibrated scale at the right-hand box of the calibration button. It will also automatically adjust the scale of main program on this focus point. The calibrated magnification value will be displayed in the upper-right corner of the main window.

8.4 Measurement on MAC Computer

To obtain the accurate measurement data for each magnification, please calibrate before any measurement function.

Click “Preview “ to resume the live video after finished operation of photo measurement.





Line	**Measurement Line**	Allows you to measure the linear distance between two points. Simply click and drag to the desired length, and click again to finish.
Rectangle	**Measurement rectangle**	Allows you to measure the width, height, and area of a rectangle.
R-Circle	**Measurement Radius Circle**	Allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired radius.
D-Circle	**Measurement Diameter Circle**	Allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired diameter.
T-Circle	**Measurement Three Points Circle**	Allows the measurement of the circumference, area, and radius of a circle. Simply click on any three points on the circle you wish to measure.
T-Angle	**Measurement Three Points Angle**	Allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.
F-Angle	**Measurement Four Points Angle**	Allows the measurement of an angle by selecting four points. Simply select two points from one line segment and another two points from another line segment to complete the angle measurement.
Undo	**Undo**	Undo the last action.
Delete	**Delete**	Delete all measurements.
Redo	**Redo**	Redo the previous action.
Save As	**Save**	Save the measurement on photo.

9. Working at Wired USBMode

2. Install the "**USBMic-Fi**" (for Windows OS) or "**USBMic-Fi**" (for Mac OS) software; the download is available from www.mic-fi.com
3. Connect to PC's USB port with USB cable; the power LED indicator will light, as well as charge indicator LED (Battery is being charged)
4. Launch "USBMic-Fi". The illumination LED lights up as soon as the application software is running.

10. "USBMic-Fi" on Windows

10.1 System Requirements

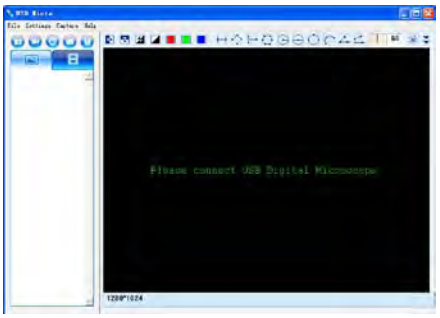
- Windows XP SP2 or later
- Available USB 2.0 or later port

10.2 Running "USBMic-Fi"

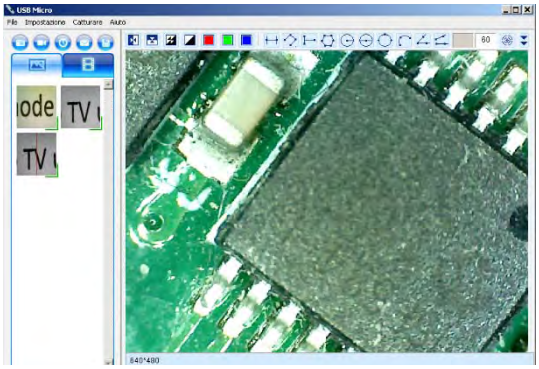
Note: Before start USBMic-Fi program, please make sure USB digital microscope has been connected to PC via USB line and Power on.

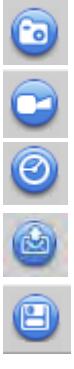
After installation of USBMic-Fi.exe, double-Click USBMic-Fi icon on desktop , the USBMic-Fi main screen will be shown:

If USB digital microscope has not been found while opening the USBMic-Fi program, the message "please connect USB Digital Microscope" will be shown:



10.3 Menu





Take a Picture

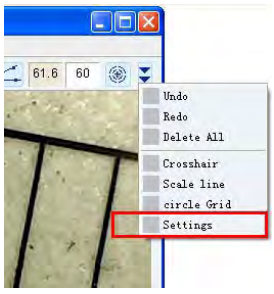
Take/Stop Video

Take time-lapsed pictures

Email the selected photos

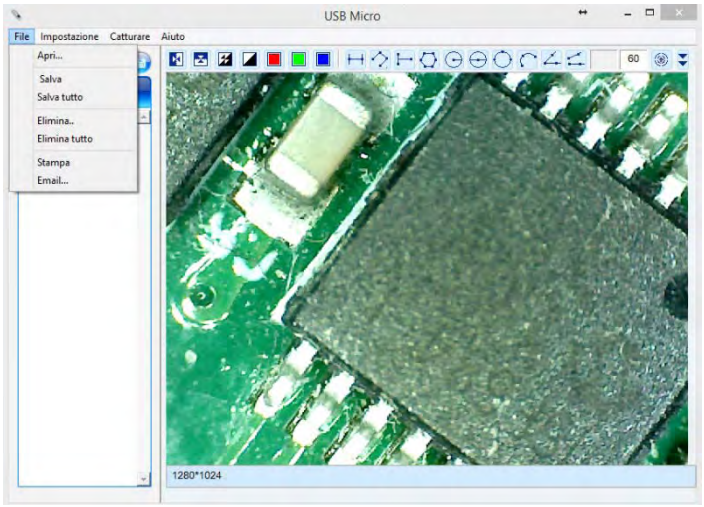
Save the selected photo or video file

or



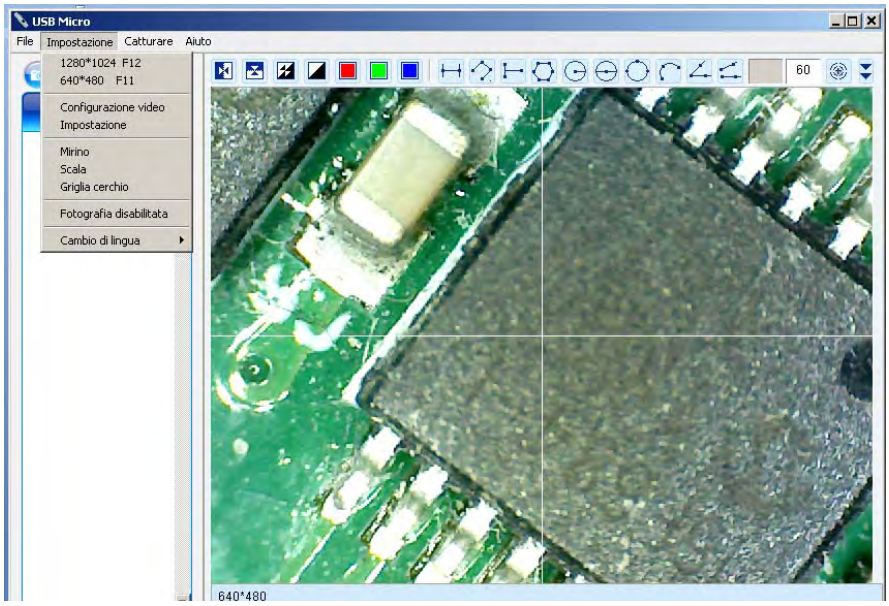
10.3.1 File Menu

Select a photo or video in Photo or Video folder; click “File” on menu bar or right key of mouse to pup-up the drop-down menu for operating it.

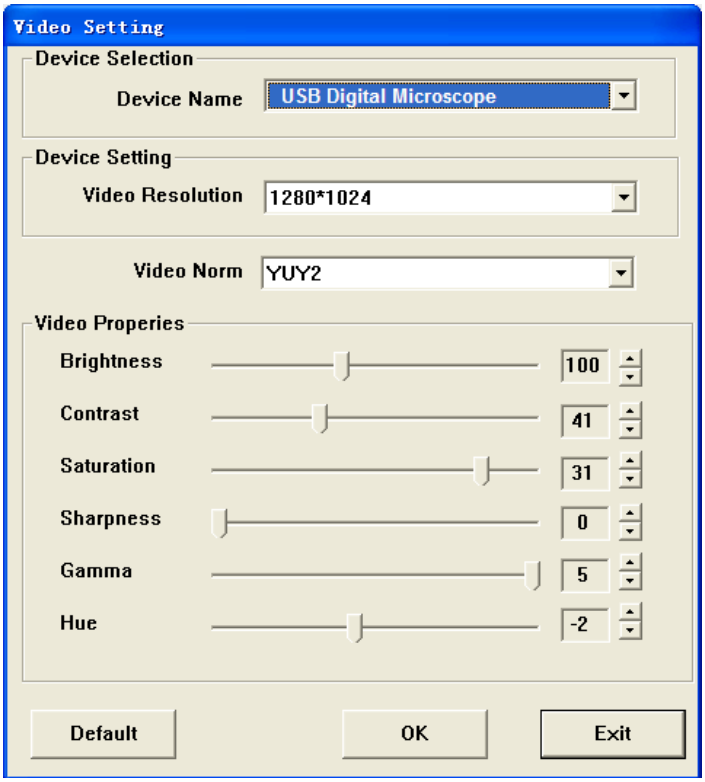


- **Open:** Opens the selected picture or video to be viewed.
- **Save as** **:** Save your files into the desired folder and file form
- **Save all:** Save all your files in the photo or video folder into the desired folder
- **Delete:** delete the selected image or video. You will be prompted to confirm your decision.
- **Delete All**: delete all the images or videos in the photo or video folder. You will be prompted to confirm your decision.
- **Print**: Print the selected photo
- **Email** **:** Send the selected images through your default email account.

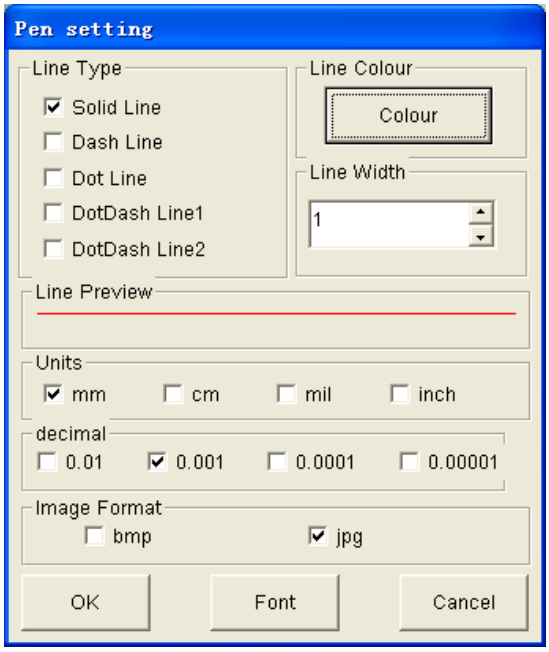
10.3.2 Setting Menu

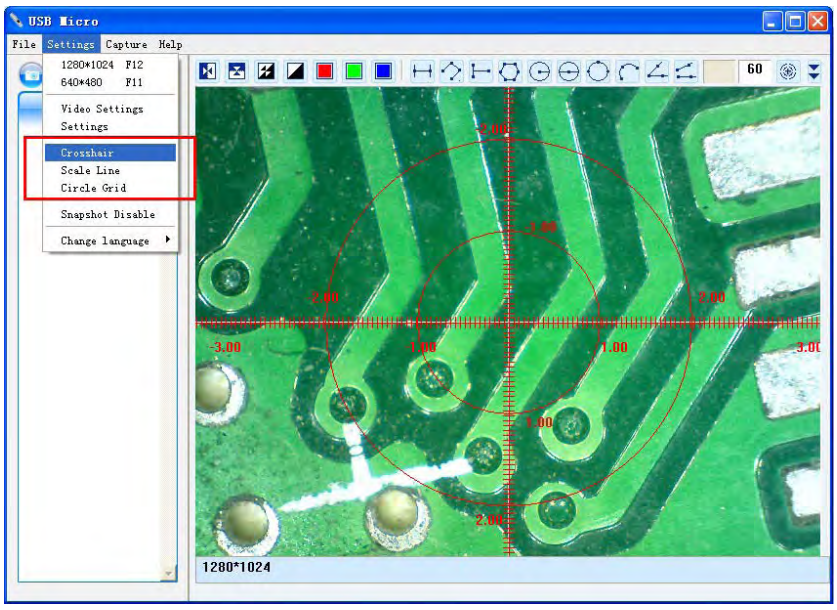


Video Setting



Pen Setting





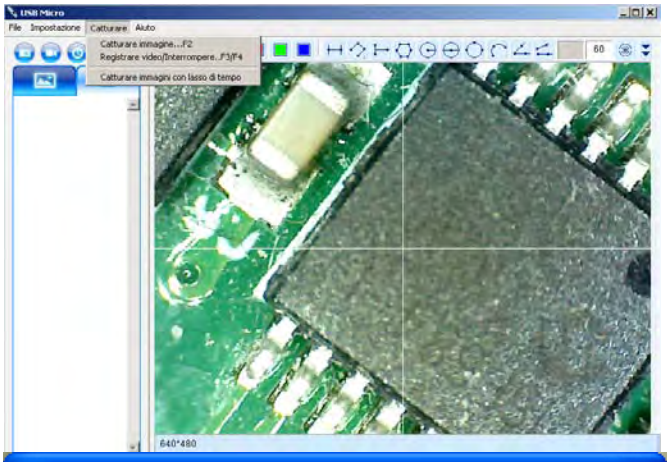
Crosshair / Scale Line / Circle Grid: Add in Crosshair / Scale Line / Circle Grid on preview area: click "Crosshair / Scale Line / Circle Grid" on the drop-down menu as below.

Snapshot Enable and Snapshot Disable: the default is enable snapshot.
Suggestion: If you need more performance of the video preview, please disable it, or maybe there is video delay.

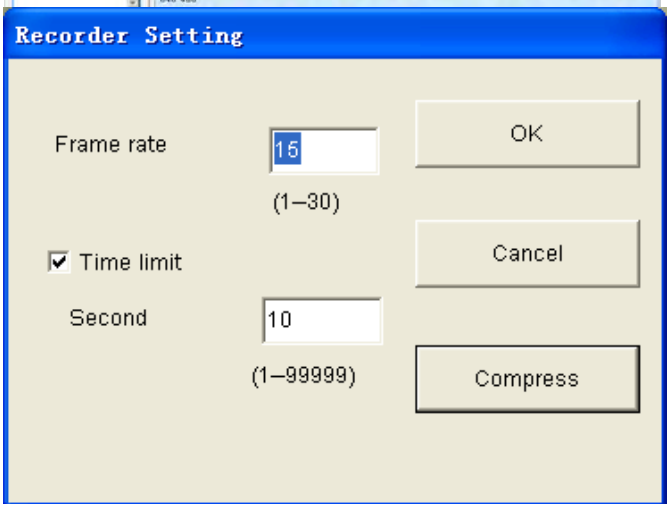
Change Language

The language selection allows you to select the USBMic-Fi interface language.

10.3.3 Capture Menu

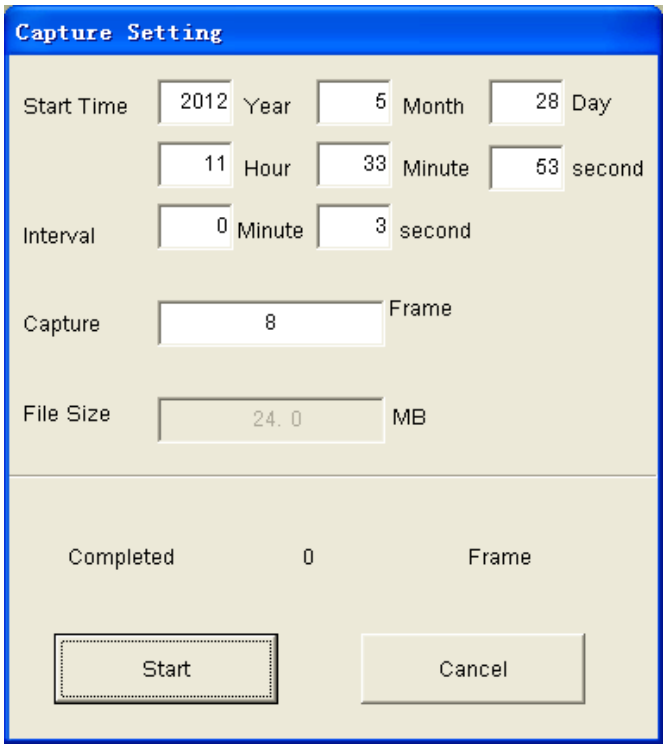


Take picture : You can take image by clicking the snapshot Button or press the button on the USB DigitalMicroscope



Take Video/Stop Video:

1. **Frame Rate:** it is the number of frames or images that are projected or displayed per second. The number range is 1~30
2. **Timer** Limit: it is the time of video recording to avoid video file size exceed to the space of disk. The number range is 1~99999
3. **Compress:** click it and you can select the video compressed format to reduce video size. It loads automatically compress programs according to your PC system. The video quality may be varied with different compress program.



Take time lapsed images:

Press the time-lapsed button on the active preview window

10.3.4 Help Menu

About USBMic-Fi: you can check your present version

10.3.5 Video Process Tool Bar

HorizontalMirror
VerticalMirror
Negative
Binary Segmentation
Monochrome display (Red)
Monochrome display (Green)
Monochrome display (Blue)
Calibration

10.4 Calibration on Windows

See chapter 8.3

10.5 Measurement on Windows

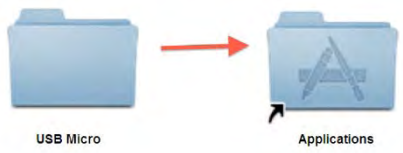
Line	The line measurement allows you to measure the linear distance between two points. Simply left click and drag to the desired length, and click again to finish.
Point to Line	The point to line measurement feature allows measurement of a line 90 degree from a certain line. Simply create a line to represent the base by clicking once to start, drag, and then click again to set the endpoint. Branch off from the base line to start measuring the line that is 90 degree from the base line and a final click to finish the measurement.
Continuous Line	The continuous line function allows measurement of the distance between multiple connecting lines. Simply click and drag to form one section of distance, click again to start another section. Continue until the total desired distance is measured. Double click to finish.
Polygon	The polygon measurement feature allows measurement of a polygon. Simply click and drag to form the desired length, and click again to start the next section, double click to finish the polygon measurement.
Radius of Circle	The radius of circle measurement allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired radius.
Diameter of Circle	The diameter of a circle measurement allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired diameter.
Three Point Circle	The three points' circle measurement allows the measurement of the circumference, area, and radius of a circle. Simply click on any three points on the circle you wish to measure.
Three Point Arc	The three point's arc measurement allows a measurement of an arc. Click on three consecutive points on an arc to measure.
Three Point Angle	The three points' angle measurement allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.
Four Points Angle	The four points' angle measurement allows the measurement of an angle by selecting four points. Simply select two points from one line segment and another two points from another line segment to complete the angle measurement.

To obtain the accurate measurement data for each magnification, please calibrate before any measurement function.

11. “USBMic-Fi” on MAC OS

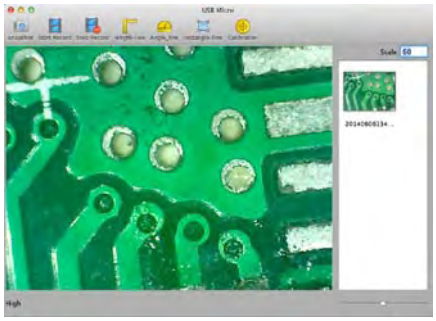
11.1 System Requirements

- MAC OS X 10.6 or later
- QuickTime 7.0 or later

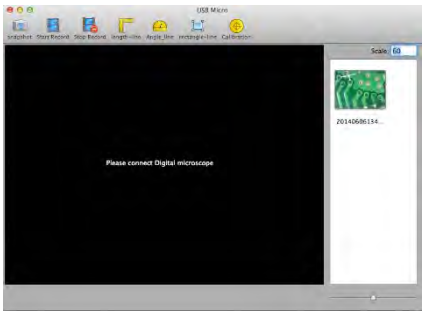


11.2 Running “USBMic-Fi”

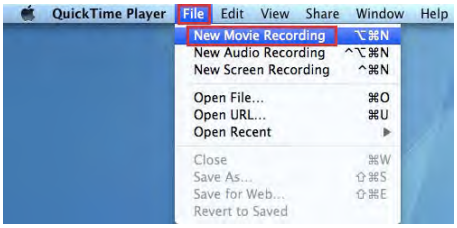
Install the “USBMic-Fi” software from www.mic-fi.com.
Once the USBMic-Fi installation is completed, please plug the microscope into an available USB port on your Mac OSX PC, and turn the microscope on with the switch on the side. The system will automatically search and install the driver. The software installation is completed, and you may see a transmission from the microscope on your screen as below. If not, please read the following instructions.



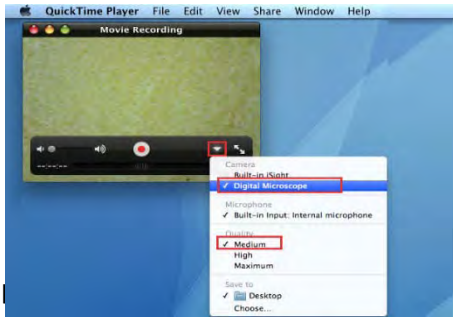
After installation of USBMic-Fi.exe, double-Click USBMic-Fi icon , the USBMic-Fi main screen will be shown:



If USB digital microscope has not been found while opening the USBMic-Fi program, the message “please connect USB Digital Microscope” will be shown:
If images from the microscope camera are not being transmitted and your display is still showing the “Please connect Digital Microscope” screen, the next step is to change settings in QuickTime, the video and media player for the Mac. Close the USBMic-Fi application, but leave the microscope turned on and plugged into the USB port.

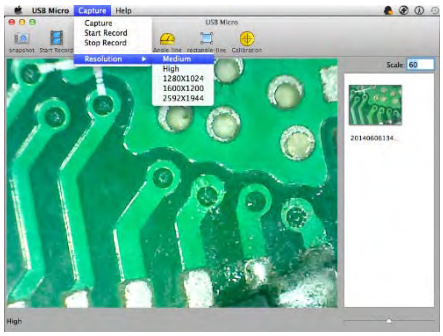


If you don’t have QuickTime in your dock at the bottom of the Mac display, look in your Mac applications folder and click on QuickTime.
The icon looks like this: . Once you’ve opened QuickTime, click on the QuickTime File menu at the top of the screen and select “New Movie Recording.”



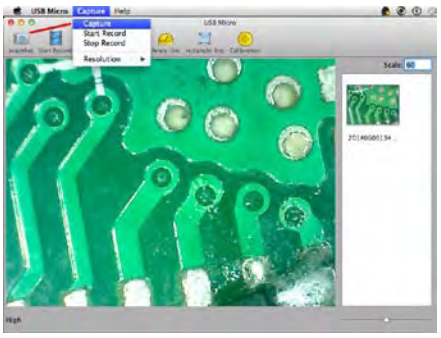
Click on the dropdown arrow at the bottom right of the “New Movie Recording” window. Make sure the USB Digital Microscope is the selected Camera and that Quality value is set to Medium, as shown on the left.

11.2.1 Video Resolution Setting



Click “Capture->Resolution” to select your desired resolution as below screen. The default resolution is Medium. If your USBMic-Fi app screen freezes on the image, it may be because USB Digital Microscope capture resolution has been set too high. Set it back to Medium and the video display will return.

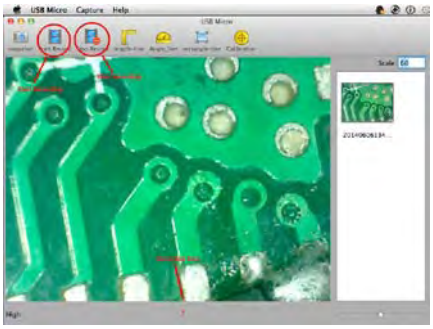
11.2.2 Capturing Image



Click the icon on the Tool bar of the main screen, or “Capture” on System Menu bar as below to capture an image. The Captured image will be saved in the folder (../users/local user name/USBMic-Fi/Image).
The filename of the captured image is a unique time stamp with .jpg file. The format of the time stamp filename is: YYYYMMDDhhmmss.jpg : YYYY is the year, MM is month, DD is date, hh is hour, mm is minutes, and ss is second.
The captured image will be inserted in the image scroll list. Double-click a selected image thumbnail in the image scroll list to open the image for measurement feature.

Delete a Captured image: Select the captured image in the image scroll list -> press “Del” Key of keyboard to delete it.

11.2.3 Creating Video



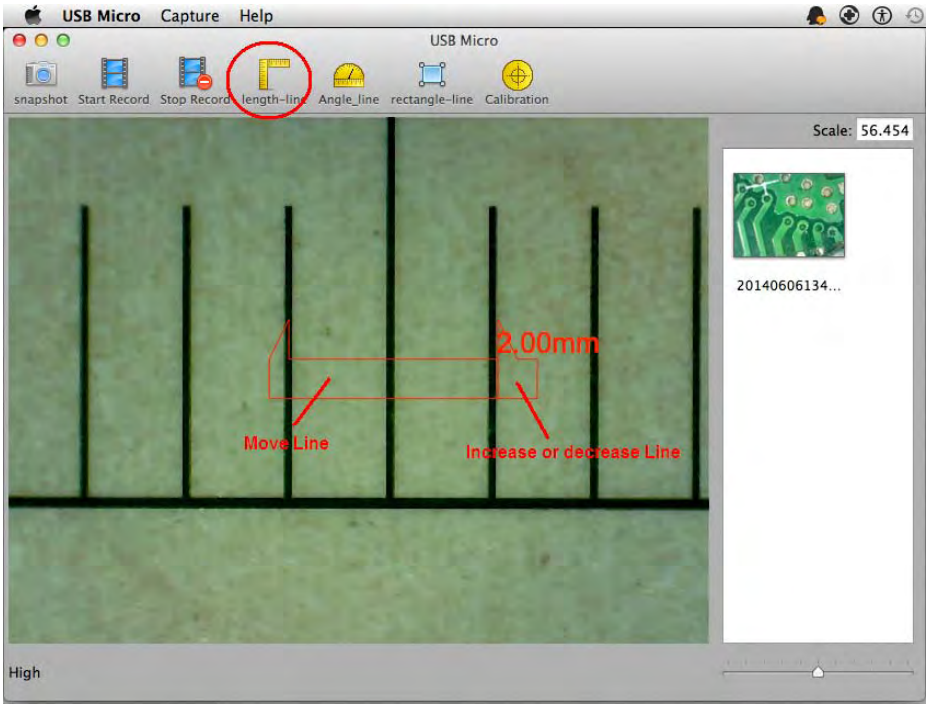
On the Tool bar of the main screen, click the icon to start recording video, and the icon to stop recording video, or click “Start Record” and “Stop Record” on the System capture menu.
The Video filename of the time stamp is YYYYMMDDhhmmss.mov: YYYY is Year, MM is Month, DD is Date, hh is Hour, mm isMinutes, and ss is Second

11.2.4 Measurement On Video

To obtain the accurate measurement data for each magnification, please calibrate before any measurement function.

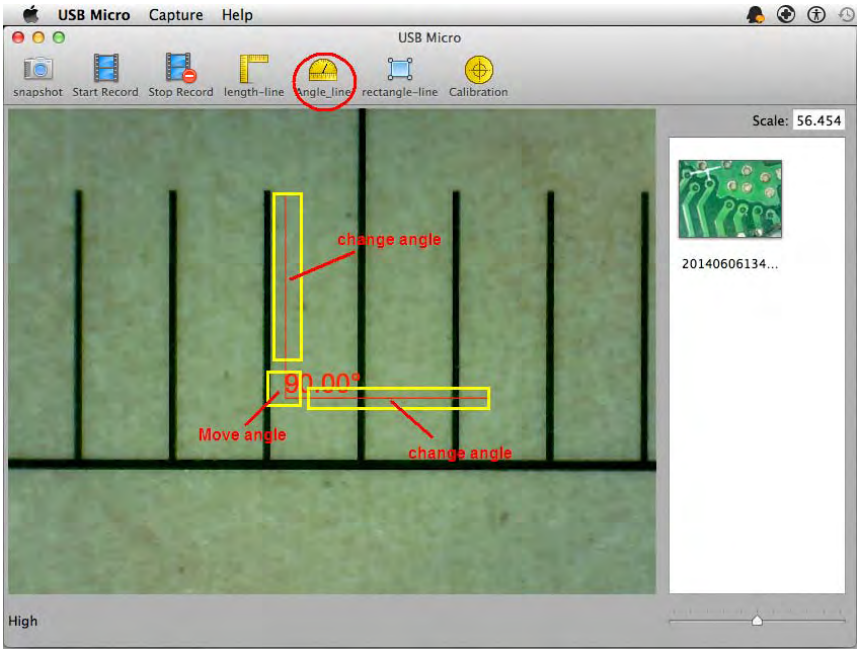
Line

Click the icon button; you will see one line on the video preview window. If you select the left of the line and drag the mouse, you can move the line. Select the right of the line and drag the mouse, you can increase or decrease the length of the line.



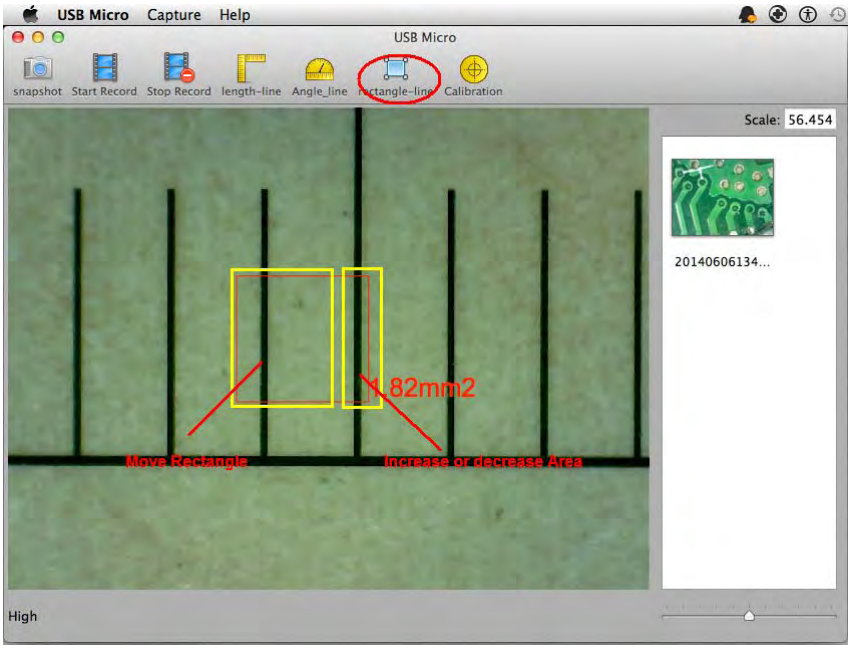
Angle

Clicking the icon, the angle will display in the video preview window. Selecting region 1 and dragging the mouse, you can change the angle (the region 2 is same to line 1). Selecting bottom-right region 3 of the angle and dragging the mouse, you can move the angle.



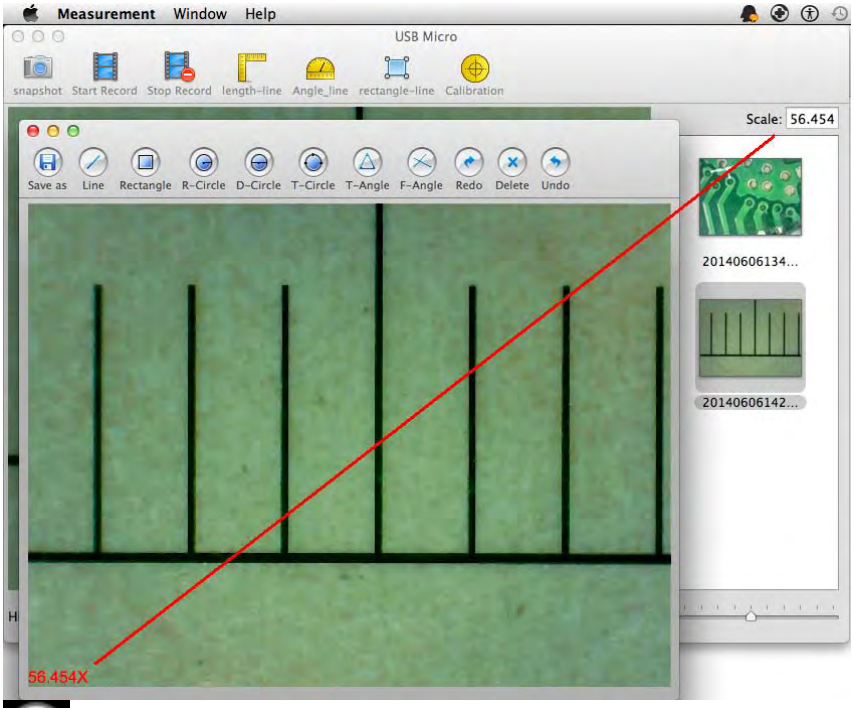
Area Measurement On Video

Clicking the icon, the rectangle will display in the video preview window. Selecting left region (region 1) of the rectangle and dragging the mouse, you can move the rectangle. Selecting right region (region 2) of the rectangle and dragging the mouse, you can change the area of the rectangle.



11.2.5 Measurement On Image

If these images were taken after you finished the Calibration on Video, please double-click an image in the image scroll list to obtain the below measurement screen.



Save As:
Rename the file and save in different path.

Measurement Line: The line measurement allows you to measure the linear distance between two points. Simply left click and drag to the desired length, and click again to finish.

Rectangle Measurement:
The rectangle measurement allows you to measure the width, height, and area of a rectangle.

Measurement Radius Circle: The radius of circle measurement allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired radius.

Measurement Diameter Circle: The diameter of a circle measurement allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired diameter.

Measurement Three Points Circle: The three point circle measurement allows the measurement of the circumference, area, and radius of a circle. Simply click on any three points on the circle you wish to measure.

Measurement Three Points Angle: The three point angle measurement allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.

Measurement Four Points Angle: The four point angle measurement allows the measurement of an angle by selecting four points. Simply select two points from one line segment and another two points from another line segment.

Undo: Undo the last action.

Delete: Delete all measurement.

Redo: Redo the previous action.

12. Product Specifications

- Operation system:Windows /Mac/IOS and Android

Wi-Fi Spec:

- Photo and Video Resolution: 1.3MPixel-- 1280x1024(MJPG),640x480(MJPG), 320x240
- Frame Rate：15fps@1280x1024,30fps@640x480, 320x240
- IEEE 802.11 b/g/n standards compliant
- Wireless Transmission Distance: up to 5m
- Transmit Power:
  - 11n HT40 MCS7: +13 dBm
  - 11b CCK: +18 dBm
  - 11g OFDM: +15 dBm
- Data Rate:
  - 802.11n: up to 150Mbps
  - 802.11b: 1, 2, 5,5, 11Mbps
  - 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
- The Temperature: ≤60 °C (Celsius degree) with full speed running.
- Frequency Range: 2.400 ~ 2.4835GHz
- Power Consumption: Max 2.5W
- Frame Rate: 10fps~30fps
- Li-ion Battery: Continuous Working Time—Appx.2 Hours, Full Charging Time—Appx.2 Hours
- Power Source: DC5.0V/1A

Camera Spec:

- Camera Sensor: CMOS 1/4”
- Optical features:
  - Exposure: Auto
  - Gamma Correction: Auto
  - Numerical Aperture: Auto
  - White Balance: Auto
  - Black Reference: Auto
  - Flicker Avoidance: Auto
  - Defect Identification: Auto
  - Color Saturation: Auto

Microscope Spec:

- Adjustable Magnification: According to the model
- The Object Distance: According to the model
- Focus Range: According to the model
- Light Source: According to the model
- Lens: High Definition Microscopy Lens
- Dimension: 36mm(Diameter) x 142mm(Length)
- Weight: ~88g

Wired USB Spec:

- Photo and Video Resolution: 1.30Mpixel—1280x1024,640x480,320x240
- Frame Rate：15fps@1280x1024,30fps@640x480, 320x240
- PC interface: USB 2. 0
- MiniUSB Cable:1.2m

13. Troubleshooting

13.1 Wi-Fi Mode

1. **There is no video display after changing the resolution to 1280 x 1024, but it works well at 640x480:**
   a) Low battery, please charge your microscope.
2. **The microscope video stops after working for a long time:**
   a) Check if low battery or the battery is exhausted.
   b) Power off Wi-Fi microscope and close Mic-Fi app, then restart it again.
3. **The live video's frame rate of Wi-Fi microscope is slow:**
   a) Click the "Preview" icon again on "WiFiMic-Fi" SW when using on Window PC or Mac PC. Close and restart "Mic-Fi" app again for Smart-Phone or Tablet.
   b) Set the video resolution to 640 x 480 if the current resolution is 1280 x 1024.
   c) Check if low battery or there are many other Wi-Fi networks interference around.
   d) Power off WiF-i microscope and close the SW to restart it again.
4. **There is no video display or slow video after successful Wi-Fi connection:**
   a) Smart-Phone or Tablet: if the illumination LEDs don't light up, please power off Wi-Fi microscope and close "Mic-Fi" app to restart it.
   b) Smart-Phone or Tablet: if the illumination LEDs light up, restart "Mic-Fi" app
   c) Windows PC or Mac PC: click the "Preview" icon again on "WiFiMic-Fi", or power off Wi-Fi microscope and close "WiFiMic-Fi" to restart it.
5. **Why does the screen stop video displaying after changing the resolution?**
   a) When changing the resolution, please wait until the illumination LED is off and lights up again before clicking OK - it takes about 5 seconds. Please restart "Mic-Fi" app.
6. **Why does the device feel rather warm after Wi-Fi microscope has been working for some time?**
   a) The Power dissipation of Wi Fi microscope is about 2.5W, so the highest internal temperature of the device can reach about 60°C.
7. **Hong long can the Wi-Fi microscope works for after the battery is full charged?**
   a) It is about 2 hours at 640x480 resolution. Full charging time is also about 2 hours.
8. **How do I use the wired set-up?**
   a) Please refer to the USB Mode chapters of this manual for wired USBMic-Fi scope usage.

13.2 USB Mode

1. **The USB Digital Microscope and the USBMic-Fi software were working, but suddenly stop working properly. Please try the following:**
   a) Unplug or Power off USB DigitalMicro from PC, close USBMic-Fi program.
   b) After waiting for 1 minute, plug and power on USB Digital Microscope and open USBMic-Fi program to try.
2. **After PC resume from standby or hibernate, maybe USBMic-Fi will not work properly, please close it and re-open to try.**
3. **If USB Digital microscope driver can't be installed completely, maybe your pc OS is not XP SP2 or above, please update it. If you installed the driver and application completely, but there is a tips: please connect USB Digital Microscope after running the program, please uninstall USBMic-Fi and reboot PC, then re-install USBMic-Fi to try again.**

15 DISPOSAL

The crossed waste bin indicates that the product at the end of its useful life has to be collected separately from other waste.

It has to be disposed of in accordance with local WEEE regulations.

16 WARRANTY

Congratulations for purchasing our product. This product HAS BEEN MANUFACTURED TO THE HIGHEST QUALITY AND STANDARDS. Italeco guarantees this product against any defects due to materials or workmanship for a period of 2 years from the date of original purchase. To take advantage of the guarantee, you have to retain your purchase invoice.
If the product show any defects within the warranty time it has to be returned to the selling agent with proof of purchase.
The warranty is null and void if the damage is resulting from carelessness or misuse.
No compensation will be given by Italeco and its distributors if the product is returned during the warranty period.
In addition, any replacement or repair carried out during the warranty time will not prolong the duration of the guarantee.

The warranty lapses in the following cases:

- The product has been tampered with or the label placed on the usb cable bearing the serial number has been removed, damaged or rendered unreadable
- The product has been damaged or has been misused
- The product has been opened or repaired by unauthorised personnel
- The product has been damaged due to non compliance with the instructions in the booklet

Products considered to be defective should be returned only to the dealer from which it was purchased accompanied by the invoice.
The product will be repaired or replaced, under our sole discretion.

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